

IN THE CLAIMS

The listing of claims will replace all prior versions, and listings of claims in this application.

1. (Currently Amended) A semiconductor light-receiving device comprising:

a semiconductor substrate having a first surface on a light-receiving side and a second surface on the opposite side to said first surface, said semiconductor substrate comprising a first conductivity type;

a semiconductor layer formed on said first surface of said semiconductor substrate;

a plurality of first semiconductor regions formed in said semiconductor layer so as to reach said semiconductor substrate from a surface of said semiconductor layer, said plurality of first semiconductor regions being formed apart from each other, and comprising the first conductive type;

a second semiconductor region selectively formed in a surface region of said semiconductor layer, said second semiconductor region having a lattice form or a network form to surround each of said plurality of first semiconductor regions with a surface ~~portion~~ portions of said semiconductor layer therebetween and comprising a second conductive type;

a first electrode formed on said second semiconductor region and having a lattice form or a network form; and

a second electrode formed on said second surface of said semiconductor substrate;

said surface portions of said semiconductor layer between each of said plurality of first semiconductor regions and said second semiconductor region having a higher resistance

resistances than resistances of said plurality of first semiconductor regions and said second semiconductor region; and

a sum of areas of said surface portions of said semiconductor layer receiving incident light being larger than a sum of areas of said plurality of first semiconductor regions and said second semiconductor region.

2. (Canceled)

3. (Canceled)

4. (Previously Presented) The semiconductor light-receiving device according to Claim 1, wherein said first electrode is formed on part of said second semiconductor region.

5. (Previously Presented) The semiconductor light-receiving device according to Claim 1, wherein each of said plurality of first semiconductor regions has an island form or a stripe form.

6. (Currently Amended) The semiconductor light-receiving device according to Claim 1, wherein the surface ~~portion~~ portions of said semiconductor layer between said second semiconductor region and each of said plurality of first semiconductor ~~layers is~~ regions are completely depleted in a state in which a reverse bias is applied between said first electrode and said second electrode.

7. (Currently Amended) A semiconductor light-receiving device comprising:
a semiconductor substrate having a first surface on a light-receiving side and

a second surface on the opposite side to said first surface, said semiconductor substrate comprising a first conductivity type;

a semiconductor layer formed on said first surface of said semiconductor substrate;

a plurality of first semiconductor regions formed in said semiconductor layer so as to reach said semiconductor substrate from a surface of said semiconductor layer, said plurality of first semiconductor regions being formed apart from each other, and comprising the first conductivity type;

a second semiconductor region selectively formed in a surface region of said semiconductor layer and having a plurality of openings, each of said plurality of first semiconductor regions being provided within each of said plurality of openings of said second semiconductor region respectively with a surface ~~portion~~ portions of said semiconductor layer therebetween and comprising a second conductivity type;

a first electrode formed on said second semiconductor region and having a lattice form or a network form; and

a second electrode formed on said second surface of said semiconductor substrate;

said surface ~~portion~~ portions of said semiconductor layer between each of said plurality of first semiconductor regions and said second semiconductor region having a higher ~~resistance~~ resistances than resistances of said plurality of first semiconductor regions and said second semiconductor region; and

a sum of areas of said surface portions of said semiconductor layer receiving incident light being larger than a sum of areas of said plurality of first semiconductor regions and said second semiconductor region.

8. (Canceled)

9. (Previously Presented) The semiconductor light-receiving device according to Claim 7, wherein said first electrode is formed on part of said second semiconductor region.

10. (Previously Presented) The semiconductor light-receiving device according to Claim 7, wherein each of said plurality of first semiconductor regions has an island form or a stripe form.

11. (Currently Amended) The semiconductor light-receiving device according to Claim 7, wherein the surface ~~portion~~ portions of said semiconductor layer between said second semiconductor region and each of said plurality of first semiconductor regions ~~is~~ are completely depleted in a state in which a reverse bias is applied between said first electrode and said second electrode.

12. (Currently Amended) A semiconductor light-receiving device comprising:
a semiconductor substrate having a first surface on a light-receiving side and a second surface on the opposite side to said first surface, said first surface including a plurality of protruded surface portions separated from each other, and said semiconductor substrate comprising a first conductivity type;

a semiconductor layer selectively formed on said first surface of said semiconductor substrate, said semiconductor layer having a higher resistance than a resistance of said semiconductor substrate and having a plurality of openings, each of said plurality of protruded surface portions of said first surface being positioned within each of said plurality of openings of said semiconductor layer respectively;

a semiconductor region selectively formed in a surface region of said semiconductor layer and having a lattice form or a network form to surround each of

said plurality of protruded surface portions of said first surface with a surface ~~portion~~
portions of said semiconductor layer therebetween, said semiconductor region
comprising a second conductive type;

a first electrode formed on said semiconductor region and having a
lattice form or a network form; and

a second electrode formed on said second surface of said semiconductor
substrate;

a sum of areas of said surface portions of said semiconductor layer receiving incident
light being larger than a sum of areas of said plurality of protruded surface portions and said
semiconductor region.

13. (Canceled)

14. (Canceled)

15. (Previously Presented) The semiconductor light-receiving device according to
Claim 12, wherein said first electrode is formed on part of said semiconductor region.

16. (Previously Presented) The semiconductor light-receiving device according to
Claim 12, wherein each of said plurality of protruded surface portions of said semiconductor
substrate has an island form or a stripe form.

17. (Currently Amended) The semiconductor light-receiving device according to
Claim 12, wherein said surface ~~portion~~ portions of said semiconductor layer between said
semiconductor region and each of said plurality of protruded surface portions of said

semiconductor substrate ~~is~~ are completely depleted in a state in which a reverse bias is applied between said first electrode and said second electrode.

18. (Currently Amended) A semiconductor light-receiving device comprising:
- a semiconductor substrate having a first surface on a light-receiving side and a second surface on the opposite side to said first surface, said first surface including a plurality of protruded surface portions separated from each other, and said semiconductor substrate comprising a first conductive type;
 - a semiconductor layer selectively formed on said first surface of said semiconductor substrate, said semiconductor layer having a higher resistance than a resistance of said semiconductor substrate and having a plurality of openings, each of said plurality of protruded surface portions of said first surface being positioned within each of said plurality of openings of said semiconductor layer respectively;
 - a semiconductor region selectively formed in a surface region of said semiconductor layer and having a plurality of openings, each of said plurality of protruded surface portions of said first surface being provided within each of said plurality of openings of said semiconductor region respectively with a surface ~~portion~~ portions of said semiconductor layer therebetween, and said semiconductor region comprising a second conductive type;
 - a first electrode formed on said semiconductor region and having a lattice form or a network form and
 - a second electrode formed on said second surface of said semiconductor substrate
 - a sum of areas of said surface 'portions of said semiconductor layer receiving incident light being larger than a sum of areas of said plurality of protruded surface portions and said semiconductor region.

19. (Canceled)

20. (Previously Presented) The semiconductor light-receiving device according to Claim 18, wherein said first electrode is formed on part of said semiconductor region.

21. (Previously Presented) The semiconductor light-receiving device according to Claim 18, wherein each of said plurality of protruded surface portions of said semiconductor substrate has an island form or a stripe form.

22. (Currently Amended) The semiconductor light-receiving device according to Claim 18, wherein said surface portions of said semiconductor layer between said semiconductor region and each of said plurality of protruded surface portions of said semiconductor substrate is are completely depleted in a state in which a reverse bias is applied between said first electrode and said second electrode.